UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,613	07/22/2003	Yong-Hyun Kim	P-0564	5057

34610 7590 04/04/2006

FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER	
PATEL, HEMANT SHANTILAL	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,613	KIM, YONG-HYUN	
	Examiner	Art Unit	
	Hemant Patel	2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14-16* is/are allowed.

6)☒ Claim(s) *1-2,4-5, 7-10 and 17-19* is/are rejected.

7)☒ Claim(s) *3,6 and 11-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/22/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 5 and 8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for determining whether a digital signal processor exits and waiting for a prescribed time for it to become available (Paragraph 0038), does not reasonably provide enablement for "*finishes a reception* of the short message service signal *if* the digital signal processor *does not appear* until the prescribed time has elapsed". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use or make the invention commensurate in scope with these claims. How can a device receive if digital signal processor does not appear? Examiner interprets the limitation "appear" as "available" in the following art rejections and the applicant should make the corresponding changes if such interpretation is correct. The Fig. 4A flow chart steps 102, 104 show that it can receive only after DSP is available.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 2, 4, 7, 10, 17-19 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's admitted prior art.

Regarding claim 1, the instant application (pgs. 1-5) describes a known private branch exchange system to switch short message service, comprising:

an office line interface unit that interfaces with office lines (Fig. 1, items 20, 30);

an interface unit (Fig. 1, items 31, 61, 70) that converts (paragraph 6) a pulse code modulation format short message service signal into a short message service data, and converts (Paragraph 14) the short message service data into a format of a terminal that will receive the short message service data;

a control unit (Fig. 1, item 50, main processor, Paragraph 8) that determines a type of the terminal that will receive the short message service data (Paragraph 13); and

an extension line interface unit that transmits an short message service signal having the format corresponding to the terminal determined by the control unit (Fig. 1, items 60, 70).

Although the specification does not explicitly state on pg. 1-5 that voice mail service is provided to calls coming from any one of the interface units 20 and 30, Fig. 1 clearly shows the prior art system provides voice mail service to calls from interface units 20 and 30 because they are connected by bidirectional data bus. The instant application also does not explicitly disclose that the main processor switches a PCM channel extension interface unit to the PCM channel of the DSP of the voice mail (Fig.

1, item 40). However, Fig. 1 clearly shows bidirectional bus connecting among the interface units including PCM interface unit 31 and voice mail interface unit under the control of main processor (Paragraphs 12-13). It is inherent for main processor to switch voice paths (PCM speech bus timeslots) between office line interface unit (Fig. 1, item 30) and DSP.

Regarding claim 2, the instant application (pgs. 1-5) further describes integrated services digital network office line (Fig. 1, item 30) that couples an integrated services digital network office line and receives a short message service signal of a pulse code modulation format.

Regarding claim 4, the instant application (pgs. 1-5) further describes a digital terminal extension line interface unit (Fig. 1, item 70) that couples to a digital terminal.

Regarding claim 7, the instant application (pgs. 1-5) describes a method for operating a private branch exchange system, comprising:

determining whether a digital signal processor can be detected when an office line and a speech path are connected to each other (Paragraph 10, SMS unit is a digital signal processor processing incoming signals);

transmitting an short message service signal transmitted from the office line to the digital signal processor when the digital signal processor is detected (Paragrpah 11, transmitting SMS signal from incoming office line to SMS unit which is a DSP processing incoming signals);

determining an extension line terminal that will receive the short message service signal (Paragraph 13, the main processor determines an extension line that will receive SMS signal); and

transmitting the short message service signal to the determined extension line terminal from the usable digital signal processor (Paragraph 13, the main processor transmits the SMS data to the SLT extension line interface unit; Paragraph 15, the main processor transmits the SMS data to the digital terminal extension line interface unit).

Regarding claim 10, the instant application (pgs. 1-5) describes that the office line is an integrated services digital network office line (Fig. 1, IDSN), a integrated services digital network office line interface unit (Fig. 1, item 30) transmits a pulse code modulation format short message service signal to the digital signal processor (Fig. 1, item 31, ISDN office line SMS unit is DSP that processes incoming PCM signals transmitted to it).

Regarding claim 17, the instant application (pgs. 1-5) describes a private branch exchange system, comprising:

a digital signal processor (SMS unit in office line interface unit) that receives a short message service signal in a first format (FSK or PCM) and converts the short message service signal in to a second format (SMS data) (Paragraph 12); and

a controller (Fig. 1, item 50, main processor) that controls the digital signal processor and determined the second format.

Regarding claim 18, the instant application (pgs. 1-5) further teaches of receiving the first format SMS signal in an office line of the system (Fig. 1, incoming line

connected to item 20), and transmits the converted second format SMS service signal (SMS data) to the other of the extension line (Paragraphs 13-15).

Regarding claim 19, the instant application (pgs. 1-5) further teaches of the digital signal processor (SMS unit that processes incoming signals) is in a voice mail interface unit (Fig. 1, item 20, interface unit provides interface and access to voice mail item 40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 5, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art as applied to claims 1, 7 above, and further in view of Rand (US Patent No. 5,838,766).

Regarding claims 5, 8, Applicant's admitted prior art does not teach of waiting for a shared resource like DSP to be available.

However, in the same field of endeavor, Rand teaches of waiting for a shared resource to become available (col. 2, ll. 67-col. 3, ll. 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify admitted prior art teaching to include waiting for a shared

resource as taught by Rand in order to efficiently provide the shared resources (Rand, col. 1, ll. 56).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art as applied to claim 7 above, and further in view of Shimozono (US patent No. 4,599,583).

Regarding Claim 9, the applicant admitted prior art teaches of PSTN office line (Fig. 1, office line connected to analog office line interface unit), a switched telephone network (Fig. 1, PSTN) office line interface unit (Fig. 1, item 20) converting FSK format SMS signal to SMS data. It does not teach of converting FSK SMS signal to PCM SMS signal.

However, in the same field of endeavor, Shimozono teaches of converting FSK data signal into PCM carried digital FSK data and transmitting it (col. 4, ll. 30-47).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify admitted prior art to include converting FSK data signal into PCM carried digital FSK data and transmitting it as taught by Shimozono in order to transmit short message service data over high capacity digital interoffice transmission line and through digital switch fabric to destination interface (Shimozono, ll. 34-47).

Allowable Subject Matter

8. Claims 3, 6, 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3, further recites of converting PCM format SMS signal into SMS data by decoding, converting it to a second PCM format SMS signal to a single line terminal and transmitting SMS data as is when the SMS data is transmitted to a digital terminal. The applicant admitted prior art teaches of converting PCM format SMS signal into SMS data (Paragraph 12). It does not teach of converting SMS data to a second PCM format SMS signal.

Claim 6, the applicant admitted prior art teaches of an analog office line interface unit coupling to an analog office line (Fig. 1, item 20) and converting analog SMS signal through the analog office line to SMS data, and ISDN office line interface unit coupling an ISDN office line (Fig. 1, item 30) receiving SMS signal of PCM format, the voice mail interface unit (Fig. 1, item 40) with a DSP and a memory; and a single line terminal extension line interface unit (Fig. 1, item 60) coupling to single line terminal (Fig. 1, item 92) and converting SMS data to SMS signal of FSK format, and a digital terminal extension line interface unit (Fig. 1, item 70) coupling to the digital terminal (Fig. 1, item 94). The applicant admitted prior art does not teach of converting SMS data into a second PCM format SMS signal.

Claims 11, 12, 13, the applicant admitted prior art teaches of converting the received short message service signal into short message service data. The applicant

admitted prior art does not teach of generating SMS message corresponding to the extension line terminal.

9. Claims 14-16 are allowed.

Claims 14, 15, 16, the applicant admitted prior art teaches of switching a PCM channel of an office line interface unit (Fig. 1, item 30) to DSP (Fig. 1, item 31, ISDN office line SMS unit is DSP processing incoming PCM signals); transmitting incoming SMS signal to DSP (Fig. 1, item 31, SMS unit); decoding SMS signal into SMS data (Paragraph 12). The admitted prior art of record does not teach of switching DSP PCM channel to PCM channel of single line terminal extension line interface unit or switching SMS data channel of DSP to the SMS data channel of digital terminal extension line interface unit.

Information Required - 37 CFR 1.105

Examiner believes that a complete and detail search has been performed but does not discover any references that relate to switching system such as PBX providing short message service as discussed on pages 1-5 of the specification as admitted prior art.

10. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

11. The information is required to identify products or services embodying the disclosed subject matter stated on pages 1-5 of the specification, particularly Short Message Service Signals and Short Message Service Data definition, description, format and encoding in relation to Private Branch Exchange system or Public Switched Telephone Network, or identify the properties of similar products and services found in the prior art.

12. In response to this requirement, please provide the title, citation and copy of each publication that is a source used for the description of the prior art in the disclosure.

13. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement

under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

14. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

15. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemant Patel whose telephone number is 571-272-8620. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hemant Patel
Examiner
Art Unit 2645

HSP
HPatel

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600